



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,667	12/09/2003	Russell H. Lambert	BP2424CON	6367
34399	7590	12/13/2004	EXAMINER	
GARLICK HARRISON & MARKISON LLP P.O. BOX 160727 AUSTIN, TX 78716-0727				YOUNG, BRIAN K
		ART UNIT		PAPER NUMBER
		2819		

DATE MAILED: 12/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/731,667	LAMBERT, RUSSELL H.	
	Examiner Brian Young	Art Unit 2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 December 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 35-54 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 35,38,42 and 48 is/are rejected.

7) Claim(s) 36,37,39,40,43-47 and 49-54 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 09 December 2003 is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other:

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 35,38,42 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lobel as applied to claims 35, 38, 42, and 48 above, and further in view of Dowling.

Lobel discloses (fig. 2) a wireless network device comprising an antenna (52) a radio transceiver coupled to the antenna ((50a, 50b); a processor (48) coupled to the radio transceiver; and a CODEC (42) coupled to the processor operable to convert an inbound analog to inbound digital data and to convert outbound digital data to an outbound analog signal, a transcoder (44), and a Digital to Analog Converter (DAC) coupled to the transcoder that is operable to convert the outbound digital data to the outbound analog signal; and an Analog to Digital Converter (ADC) coupled to the transcoder that is operable to convert the inbound analog signal to the digital data (see col.3,Ins.35-45) "functionally, the PCM codec 42 includes (a) an analog-to-digital converter (**ADC**) and bandpass filters for converting an analog telephone signal received from the telco interface 40 to a digital signal in the PCM format, and (b) a digital-to-analog converter (**DAC**) and lowpass filters for converting a digital signal to an analog telephone signal for provision to the telco interface 40. The PCM codec 42

provides the digital signal in PCM format to an ADPCM **transcoder 44**". Referring to FIG. 3, a block diagram of a handset 20 for **audio** output is shown.

It is noted that Lobel does not specifically disclose the use of dithering signals in the CODEC.

However, it is well known to use dithering techniques in CODEC's.

Dowling teaches (fig.1) a CODEC (117) having both a DAC (120) and ADC (140) which employs dithering techniques for noise reduction (see col.19, Ins.1-18)"The function of the preequalizer is to ensure when the uplink signal reaches the network-interface **ADC**, the network-interface **ADC** will sample the uplink signal so that its samples lie substantially on a PCM quantization grid. **Noise, timing jitter and distortion will** cause the sample values to approximate the PCM quantization points instead of hitting them exactly dead-on in most cases. When training the preequalizer, **a dither signal may be added to a probing signal to allow make fine adjustments to be made** to center a signal value on a quantizer constellation point. For example if a signal value falls between two constellation points **and a known dither component is added, the resulting sampled value may then be used to indicate how to make a fine adjustment**".

Therefore, it would have been obvious to one having ordinary skill in the art, and these teachings before him, to apply the use of dither signals for noise filtering and jitter reduction, as taught in the CODEC disclosed by Dowling, to the CODEC taught by Lobel, for the purpose of reducing noise, jitter and improving overall circuit resolution.

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Malcolm et al disclose where the input and output of data and control signals between a codec 100 and an external ISA bus is effectuated through an I/O bus interface 101. Configuration and control block within I/O bus interface 101 allows a host, via the ISA bus, to configure codec 100 for selected operating modes. Additionally, interface 101 allows a host on the ISA bus to set-up I/O base addressing to codec 100, define the codec 100 to ISA bus interrupt mapping, and define the DMA channel mapping for the codec 100 memory space. The Codec functionality is based on D/A converters 110 and A/D converters 111 utilizing switch-capacitor filter a delta sigma modulator, respectively. The sampling frequency at which the A/D and D/A converters (111 and 110) operate is fixed at 44.1 kHz. The delta-sigma modulator for the A/D conversion is implemented with a third order algorithm.

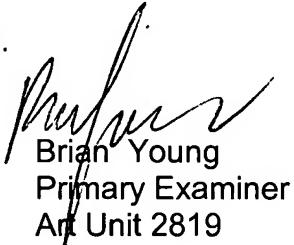
Claim Objections

4. Claims 36,37,39-40,43-47 and 49-54 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Young whose telephone number is 571-272-1816. The examiner can normally be reached on Mon-Fri 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Tokar can be reached on 571-272-1812. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian Young
Primary Examiner
Art Unit 2819
